Selected Abstracts from the July Issue of the European Journal of Vascular and Endovascular Surgery

A. Ross Naylor, MBChB, MD, FRCS, Editor-in-Chief, and Philippe H. Kolh, MD, PhD, Senior Editor

Carotid Artery Atherosclerosis Among 65-year-old Swedish Men — A Population-based Screening Study

Högberg D., Kragsterman B., Björck M., Tjärnström J., Wanhainen A. Eur J Vasc Endovasc Surg 2014;48:5-10.

Objective: There are limited contemporary epidemiological data on the prevalence of carotid atherosclerosis in the general population. The aim was to determine the prevalence of and risk factors associated with carotid artery atherosclerosis among 65-year-old men.

Methods: This was a population-based screening study. All 65-year-old men in the County of Uppsala, Sweden, who attended screening for abdominal aortic aneurysm (AAA) 2007–2009, were invited for duplex scanning of the carotid arteries.

Results: Of 4801 men invited, 4657 (97%) accepted. Carotid plaques (>2 × 6 mm) were observed in 1169 (25%) men, 94 (2.0%) had carotid stenoses (50–99%), and 15 (0.3%) had occluded carotid arteries. In a multivariate logistic regression model, smoking (OR 1.7, 95% CI 1.5–1.9), hypertension (1.5, 95% CI 1.3–1.7), diabetes mellitus (1.2, 95% CI 1.0–1.5), and coronary artery disease (1.5, 95% CI 1.3–1.8) were associated with prevalence of carotid atherosclerosis (plaque and/or stenosis). The use of antiplatelet agents and statins in participants with a carotid plaque was 20% and 29%, respectively. The corresponding figures in participants with a stenosis were 42% and 41%.

Conclusions: This study offers contemporary data on the prevalence of carotid atherosclerosis in a population-based cohort of 65-year-old men. Most of those at risk had no other clinical manifestation of atherosclerosis, and therefore had no secondary prevention.

Treatment Decisions for Descending Thoracic Aneurysm: Preferences for Thoracic Endovascular Aneurysm Repair or Surveillance in a Discrete Choice Experiment

Rudarakanchana N., Reeves B.C., Bicknell C.D., Heatley F.M., Cheshire N.J., Powell J.T. Eur J Vasc Endovasc Surg 2014;48:13-22.

Objective: To investigate and rank factors that influence endovascular treatment decisions by specialists for patients with descending thoracic aortic aneurysm (dTAA).

Methods: Specialists completed a diagrammatic survey describing uncertainty about the benefit of thoracic endovascular aneurysm repair (TEVAR) for dTAA with respect to age, sex, and aneurysm diameter. Subsequently, a detailed discrete choice experiment was designed. Specialists were recruited and asked to indicate treatment their preference (TEVAR or surveillance) in 25 hypothetical cases of dTAA, with variable patient attributes: age, sex, American Society of Anesthesiologists (ASA) grade, aneurysm diameter, adequate landing zone distal to left subclavian artery (LSA), and length of aortic coverage. Data were analysed using multiple logistic regression.

Results: The diagrammatic survey, based on 50 respondents, showed that uncertainty about the benefits of TEVAR was greatest for patients aged 80–85 years (up to 47% of respondents were "unsure") and that uncertainty increased with increasing aneurysm diameter (for an 80-year-old man, 7% were unsure at 5.5 cm and 33% were unsure at 7.0 cm). Seventy-one specialists (mainly from Europe and North America, 86% vascular surgeons and 98% working in units offering TEVAR) completed the discrete choice experiment. Preference for TEVAR increased greatly with enlarging diameter: adjusted odds ratios (OR) >5.5–6.0 cm = 15.8 (95% confidence interval [CI] 9.83–25.40); >6.0–6.5 cm = 393.0 (95% CI 202.00–766.00); >6.5–7.0 cm = 1829.0 (95% CI 400.00–4,181.00). TEVAR was less likely to be preferred in patients older than 75 years (>75–80 years OR 0.32, 95% CI 0.21–0.49; >80–85 years = 0.18, 95% CI 0.11–0.28); in women (OR 0.52, 95% CI 0.37–0.74); in patients classified as ASA grade 4 (OR 0.44, 95% CI 0.36–0.57); and in patients with aorta coverage >25 cm (OR 0.48, 95% CI 0.32–0.74). The proximal landing zone did not influence preference.

Conclusion: Specialists' preferences for endovascular repair of degenerative dTAA vary widely, and demonstrate clinical uncertainty, especially in octogenarians, and a reluctance to offer TEVAR to women. Aneurysm diameter dominates treatment preferences, but patient fitness and length of aortic coverage (>25 cm) also were influential, although the landing zone distal to LSA was not.

Spontaneous Delayed Sealing in Selected Patients with a Primary Type-Ia Endoleak After Endovascular Aneurysm Repair

Bastos Gonçalves F., Verhagen H.J.M., Vasanthananthan K., Zandvoort H.J.A., Moll F.L., van Herwaarden J.A. Eur J Vasc Endovasc Surg 2014;48:53-9.

Objective: Direct additional therapy is advised for type-Ia endoleaks detected on completion angiography after endovascular aneurysm repair (EVAR). Additional intraoperative endovascular procedures are, however, often challenging or not possible, and direct open conversion is unattractive. The results of a selective, conservative strategy for patients with primary type-Ia endoleak has been analysed.

Methods: This was a retrospective, single-centre study (UMC, Utrecht, NL). From 2004 to 2008, all patients with a primary type-Ia endoleak and suitable anatomy for EVAR, stentgraft oversizing ≥15%, and optimal deployment were included. Complications during follow-up were studied and all sequential CTA scans were reviewed. These were compared with the remaining patients, treated during the same period.

Results: Fifteen patients were included (14 male, median age 77, range 67–85) with a median aneurysm diameter of 60 mm (48–80), an aneurysm neck diameter of 26 mm (21–32), a neck length of 29 mm (11–39), and infrarenal angulation of 49° (31–90). One patient suffered rupture 2 days after EVAR – leading to the only AAA-related death. Eight of the 15 type-Ia endoleaks disappeared spontaneously on the first postoperative CTA, obtained within 1 week of EVAR. On the second postoperative CTA, obtained a median of 5 months (1–12) after EVAR, all remaining endoleaks had sealed. One recurrence occurred at 4.85 years. During a median follow-up of 3.3 years, there were five secondary interventions. Compared with controls, there were more secondary (or recurrent) type-1a endoleaks (13% vs. 4%), endograft migrations (13% vs. 3%), sac growths (33% vs. 16%), and secondary interventions (33% vs. 23%). None of these differences however, were statistically significant.

Conclusions: All but one of the primary type-Ia endoleaks sealed spontaneously. Until sealing, the risk of rupture persisted, but subsequently only one recurrence of type-Ia endoleak was seen. In selected patients, a conservative approach for primary type-Ia endoleaks may be justified.

Healthcare Quality Indicators of Peripheral Artery Disease Based on Systematic Reviews

Bellmunt S., Roqué M., Osorio D., Pardo H., Escudero J.-R., Bonfill X. Eur J Vasc Endovasc Surg 2014;48:60-9.

Objectives: Peripheral artery disease (PAD) is a major health problem whose clinical management includes multiple options regarding risk factor control, diagnosis, and medical and surgical treatment. The aim was to generate indicators based on systematic reviews to evaluate the quality of healthcare provided in PAD.

Methods: Electronic searches were run for systematic reviews in The Cochrane Library (Issue 6, 2011), MEDLINE, EMBASE, and other databases (up to June 2011). Conclusive systematic reviews of high methodological quality were selected to formulate clinical recommendations. Indicators were derived from clinical recommendations with moderate to very high strength of evidence as assessed by the GRADE system.

Results: From 1,804 reviews initially identified, 29 conclusive and high-quality systematic reviews were selected and nine clinical recommendations were formulated with a moderate to very high strength of recommendation. Six indicators were finally generated: four on pharmacological interventions, antiplatelet agents, naftidrofuryl, cilostazol, and statins; and two lifestyle interventions, exercise and tobacco cessation. No indicators were derived for diagnostic tests or surgical techniques. Most indicators targeted patients with intermittent claudication.